Unifying Verification with MET+: An Update

Tara L. Jensen[1,3], Bonny Strong[2,3], Ivanka Stajner[4], Geoff Manikin[5], John Halley Gotway[1,3], Jason Levit[5], Fanglin Yang[5,6], Jacob Carley[5,6], Binbin Zhuo[5,6], Perry Shafran[5,6], Ying Lin[5,6], Ben Blake[5,6], Mallory Row[5,6], Louisa Nance[1,3], Bill Kuo[1,3]

[1]NCAR/Research Applications Laboratory, Boulder, CO
[2]NOAA/Earth System Research Laboratory, Boulder, CO
[3]Developmental Testbed Center, Boulder, CO
[4]NOAA/Office of Science and Technology Integration, Silver Springs, MD
[5]NOAA/Environmental Modeling Center, College Park, MD
[6]IMSG, College Park, MD

The need to simplify the National Center for Environmental Prediction (NCEP) verification capability was identified both by the Next Generation Global Prediction System (NGGPS) Verification and Validation (V&V) team in response to several national review committee reports in 2015. These reports includes many references to "evidence driven decision making" and "improved verification and diagnostic methods." The NGGPS V&V team reviewed many different options for building the capabilities needed to support NGGPS through a unified software package and decided to base the unified system on the existing Model Evaluation Tools (MET) package developed by the National Center for Atmospheric Research (NCAR) and supported by Developmental Testbed Center, along with its associated interactive web-based aggregation and visualization package METViewer.

The unified system is called MET+, which reflects the use of MET and METViewer (the corresponding database and display system) at the core with a set of flexible python-based scripts to wrap the system. The goal of the new system is to bring together critical existing capabilities into a single well-maintained and community supported package that allows scientist to diagnose systematic errors as well as perform process-oriented investigations into model error. This multi-year project is to replicate the EMC verification capabilities for the weather time-scales while preparing to extend capability to verify the fully coupled modeling system that simulated across climate and weather spatial and temporal scales. Funding for this effort is provided through the DTC, NGGPS and several United States Weather Research Program R2O and Testbed project

This presentation will provide an overview of the system, the development progress to date, where to obtain the current suite of tools, and examples of the current capability available to the NOAA testbeds